Human/Mouse/Rat SOD2/Mn-SOD Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF3419

DESCRIPTION

Species Reactivity	Human/Mouse/Rat
Specificity	Detects human, mouse and rat SOD2 in Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human SOD2 Lys25-Lys222 Accession # P04179
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

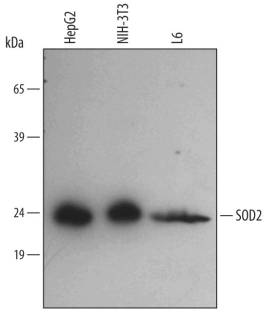
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Simple Western	10 µg/mL	See Below

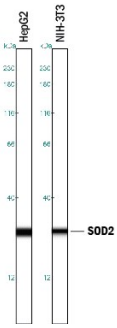
DATA

Western Blot



Detection of Human/Mouse/Rat SOD2/Mn-SOD by Western Blot. Western blot shows lysates of HepG2 human hepatocellular carcinoma cell line, NIH-3T3 mouse embryonic fibroblast cell line, and L6 rat myoblast cell line. PVDF membrane was probed with 1 µg/mL of Goat Anti-Human/Mouse/Rat SOD2/Mn-SOD Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3419) followed by HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). A specific band was detected for SOD2/Mn-SOD at approximately 23 kDa (as indicated). This experiment was conducted using Immunoblot Buffer Group 2.

Simple Western



Detection of Human and Mouse SOD2/Mn-SOD by Simple Western™. Simple Western lane view shows lysates of HepG2 human hepatocellular carcinoma cell line and NIH-3T3 mouse embryonic fibroblast cell line, loaded at 0.2 mg/mL. A specific band was detected for SOD2/Mn-SOD at approximately 28 kDa (as indicated) using 10 µg/mL of Goat Anti-Human/Mouse/Rat SOD2/Mn-SOD Antigen Affinity-purified Polyclonal Antibody (Catalog # AF3419) followed by 1:50 dilution of HRP-conjugated Anti-Goat IgG Secondary Antibody (Catalog # HAF109). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Superoxide Dismutases (SODs), originally identified as Indophenoloxidases (IPOs), are enzymes that catalyze the conversion of naturally occurring but harmful superoxide radicals into molecular oxygen and hydrogen peroxide. Superoxide Dismutases 2 (SOD2, also known as Manganese (Mn) SOD, mitochondrial SOD and IPO-B) is an intramitochondrial 23 kDa protein that associates as a homotetramer. Each SOD2 monomer binds one Mn^{2+} ion. Oxidative stress has been implicated in many diseases and the chief source of reactive oxygen species within the cell is the mitochondrion. SOD2 is a free radical scavenging enzyme that protects against damage from superoxide produced as a byproduct of oxidative phosphorylation and protects the integrity of mitochondrial enzymes susceptible to inactivation by superoxide. Over aa 25-222, human SOD2 shows 94% and 93% identity to mouse and rat SOD2.

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